

**Gravatt, Dan**

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**From:** Dan Feezor [dfeezor@feezorengineering.com]  
**Sent:** Tuesday, February 11, 2014 9:59 AM  
**To:** Gravatt, Dan; Bill Abernathy; 'Paul Rosasco'; Mike Bollenbacher; Steve Wright  
**Cc:** Warren, Victoria; Merrigan, Jessie (LG); Paul Eastvold  
**Subject:** Emailing: USEPA Phase 1B and 1C Work Plan Addendum 1 -2-11-14  
**Attachments:** USEPA Phase 1B and 1C Work Plan Addendum 1 -2-11-14.pdf

Dan,  
Attached is the Addendum 1 that we discussed together when you were the On Scene coordinator. I received approvals for submittals. We are working on the next submittal which hopefully will be ready by the end of this week.

Please let me know if you have any questions. We will be drilling out the PVC casings and tremie grouting existing boreholes starting tomorrow.

Thank you,  
Dan Feezor

Daniel Feezor, P.E.  
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February 11, 2014

Ms. Cecilia Tapia  
Director  
Superfund Division  
**United States Environmental Protection Agency**  
Region 7  
11201 Renner Boulevard  
Lenexa, Kansas 66219

RE: Bridgeton Landfill / OU-1 Coring (Phase 1B, 1C and 2) Work Plan – Addendum 1

Dear Ms. Tapia:

On behalf of our client, Bridgeton Landfill, LLC (hereinafter Bridgeton Landfill), Feezor Engineering, Inc. (FEI) hereby submits a request to modify the procedures approved in the January 8, 2014 *Core Sampling (Phases 1B, 1C, and 2) Work Plan – Revision 1*. Specifically, there are two requested alterations to the procedures approved in the Work Plan:

- Removal of PVC casing upon completion of a successful downhole gamma scan, and
- Grouting via tremie pipe as part of the procedures to abandon GCPT and sonic boreholes.

Within the original work plan, the following method was proposed. *“Once the borehole has reached its total depth, a 2-½ inch minimum solid PVC pipe with a bottom cap will be inserted into the hole. The boring diameter should be approximately 6 inches, so an annular space will exist. This annular space will be backfilled with sand from the surface once the borehole gamma logging has concluded. A bentonite seal will be used in the upper 5 feet of backfill. The PVC pipe will extend 4 feet above the surface, and a PVC end-cap will be secured to the finished PVC pipe before the borehole has been completed.”*

However, the MDNR requested that a bentonite plug be placed beneath the bottom of the waste. To comply with the MDNR request, pelletized bentonite (Cetco® Hole Plug) was placed within the cased boring up to the level of the bottom of the waste. Since bentonite naturally emits a gamma signature, an approximate 2-ft interval of sand was placed on top of the bentonite to shield the downhole gamma scan equipment from the bentonite signature. In addition, in order to address upward pressure and movement

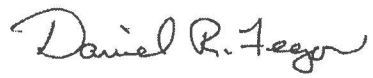
("floating") of the PVC pipe from buoyancy in the borehole, sand was also placed inside the bottom 2-ft of the PVC casing. These methods, however, precluded the ability to scan the bottom 2 feet of waste.

In order to gamma log the entire waste interval and meet MDNR's request to install a bentonite seal at the base of the waste material, we are proposing to modify the PVC pipe installation procedure and eliminate permanent installation of the PVC pipe. Specifically, it is proposed that upon completion of the borehole coring, the lower bentonite plug be placed 3 feet below the bottom of the waste. Solid PVC pipe would be installed to the top of the lower plug. The PVC pipe would be secured at the surface with a temporary support device to prevent the pipe from rising out of the borehole due to buoyancy effects. Once the gamma scan was completed and the data reviewed and approved by Auxier and Associates, the PVC pipe would be removed. Please note that the borehole will typically be open for 24 hours or less, but a maximum of 48 hours for the open borehole will not be allowed unless a mechanical breakdown or a significant inclement weather event occurs.

The second proposed alteration is to use a tremie pipe to install grout slurry in the borehole up to a depth of approximately 2 feet below ground surface. The slurry would consist of neat cement, bentonite, or a combination of these materials, and would have a solids content of no less than 20%. Grouting via tremie would be used as part of the borehole abandonment procedures in that boreholes would be filled with grout from their total depths up to 2 feet below ground surface, then bentonite pellets would be used to backfill the top 2 feet of the borehole in general accordance with MDNR rules. Boreholes in which PVC pipe was previously installed as part of Phase 1B, would be drilled out and the boreholes abandoned using tremied grout and bentonite pellets as described above. If large voids in waste are encountered, then bentonite pellets would be used for these intervals during borehole abandonment. Having approval to utilize both grout and bentonite pellets would provide the flexibility needed to effectively abandon the boreholes depending on the field/drilling conditions encountered. The tremie pipe will be radiologically surveyed and decontaminated using the same procedures set forth in Section 7.1.2 of the *Core Sampling (Phases 1B, 1C, and 2) Work Plan – Revision 1*.

Thank you again for your cooperation in this matter. We look forward to working with you. If you have any questions, please feel free to contact me at (217) 483-3118 or Bridgeton Landfill's Environmental Manager Brian Power at (314) 744-8165.

Sincerely,

A handwritten signature in black ink that reads "Daniel R. Feezor". The signature is written in a cursive style with a large, stylized 'D' and a long, sweeping underline.

Daniel R. Feezor, P.E.

**Feezor Engineering, Inc.**

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